APPENDIX A

SCIENCE PROGRAM ELEMENTS SOLICITED BY THE ROSS-99 NRA

A.1.1 Origins of Solar Systems Program (OSSP)

1. Scope of Program

This program element solicits basic research proposals to conduct scientific investigations related to understanding the formation and early evolution of planetary systems and to provide the fundamental research and analysis necessary to detect and characterize other planetary systems. These investigations may involve analytical and numerical modeling, laboratory research, and observational studies in the following areas: star formation and the relationship to planetary system formation, solar nebula processes, accumulation and dynamical evolution, analysis of primitive materials, and the detection of other planetary systems. The investigations supported through this NRA should directly support the goals related to understanding planetary system formation.

For example, key questions addressed by the research activities supported by this program may include: What was the initial mass, structure, motions, and temperature of the solar nebula, and the time scales over which planets formed? What are the conditions of star formation that lead to a single star surrounded by a protoplanetary disk? How was angular momentum transported in the nebula? What determined the masses of the giant planets? By what mechanism did the most primitive bodies in the solar system accumulate? What factors influence the growth of planetary embryos into planets? What processes were responsible for the patterns of chemical fractionation observed in the primitive meteorites and the volatile abundances in the planets? What is the frequency of the occurrence of planetary systems?

This Origins program realizes the existing potential for complementary interdisciplinary efforts to solve key scientific questions. To achieve this goal, proposals are encouraged that involve joint research efforts by investigators from different scientific communities. Interdisciplinary investigations may include, for example, studies of nebular chemistry and dynamics to understand the composition of primitive volatile-rich solar system bodies, or collaborations between observational astronomers and modelers to study the initial collapse of a protostellar cloud to form a nebula.

Proposals for topical conferences, workshops, symposia, or other new initiatives related to the Origins program are also solicited through this NRA. For more information about the type of research supported by this program, abstracts for currently funded investigations are available at http://www.hq.nasa.gov/office/oss/codesr/welcome.html.

Ground-based Efforts towards Detection of Planetary Systems

The OSSP will also support the ground-based observational efforts to detect (indirect and direct) and characterize other planetary systems, particularly those key observations summarized in the *Exploration of Neighboring Planetary Systems (ExNPS) Mission and Technology Roadmap* available at <http://techinfo.jpl.nasa.gov/WWW/ExNPS/homepage.html>. NASA expects to capitalize on its investments in ground-based facilities, but detection projects will not be limited to these primary research assets (Keck Observatory, Infrared Telescope Facility (IRTF) with its new tip-tilt secondary, and the Palomar Testbed Interferometer (PTI)). Investigations may include detection projects to continue ongoing search programs, as well as to use innovative new techniques, new instruments, and/or telescopes to cover the maximum extrasolar planet search space.

2. Programmatic Information

It is estimated that the funding level for this program for fiscal year (FY) 2000 will be approximately $5M and that this level of funding will support approximately 100 research investigations, including both new proposals and in-progress multiple year proposals. Awards under this NRA are subject to the availability of program funds.

Holders of existing OSSP multiple year awards (e.g., the second or third year of a three-year award from a previous NRA) must submit a request for an annual funding allotment of their award in the form of a *Progress Report* by the same deadline as given in Table 1 for new proposals for this program element. These *Progress Reports* will be screened by the peer review panel that will be reviewing new proposals to aid NASA's evaluation of progress. The Project Description in such a request for allotment, including a report of progress made during the past year, should be limited to no more than five single-spaced, typewritten pages and include a brief statement of planned work for the coming year, a report of progress made during the previous year, a budget, and an estimate of the amount of previously awarded funds that will remain available at the end of the award year. The five page limit does not include a *Cover Page*, a listing of proposal personnel, *Proposal Summary* (Abstract), *Budget Summary*, *Table of Contents*, references, figures, requests for equipment augmentations, detailed budgetary information, reprints, or appendices.

NOTE: Appendix C contains critical information necessary for the preparation and submission of proposals submitted in response to this NRA. In particular, Section C.5.3 contains detailed standards concerning the format, page limits, and contents of a proposal. The submission of a proposal not in compliance with these standards may complicate and/or hinder its efficient and complete evaluation. Therefore, deficiencies in format and/or omission of key information may result in a proposal being found unacceptable for evaluation, or if evaluated, being adversely affected during the evaluation process.

The schedules for submission of the Notice of Intent and proposal are given in Table 1 of the cover letter of this NRA. The World Wide Web site for submitting both the NOI and the *Cover Page/Proposal Summary* (see Appendix C.5) is <http://cass.jsc.nasa.gov/panel/>; proposers without access to the Web or who experience difficulty in using this site should contact the Lunar Planetary Institute by E-mail at <panel@lpi.jsc.nasa.gov> or by phone at (281) 486-2137 for assistance. Hard copies of the proposals are to be delivered to:

ROSS-98 NASA Research Announcement
Origins of Solar Systems Program (OSSP)
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Houston, TX 77058
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